

Missouri Department of Natural Resources

## Total Maximum Daily Load Information Sheet

### Honey Creek

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#### Waterbody Segment at a Glance:

**County:** Henry  
**Nearby Cities:** Clinton  
**Length of impairment:** 3 miles  
**Pollutant:** Sulfate  
**Source:** Reliance Shop Abandoned  
Mine Lands



State map showing location of watershed

**TMDL Priority Ranking:** Medium

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#### Description of the Problem

##### Beneficial uses of Honey Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health associated with Fish Consumption

##### Use that is impaired

- Protection of Warm Water Aquatic Life

##### Standards that apply

- Sulfate and chloride are linked together in Missouri's Water Quality Standards, 10 CSR 20-7.031(4)(L)1. There it states the concentration of chloride plus sulfate shall not exceed 1,000 milligrams per liter (mg/L) or parts per million for protection of aquatic life.

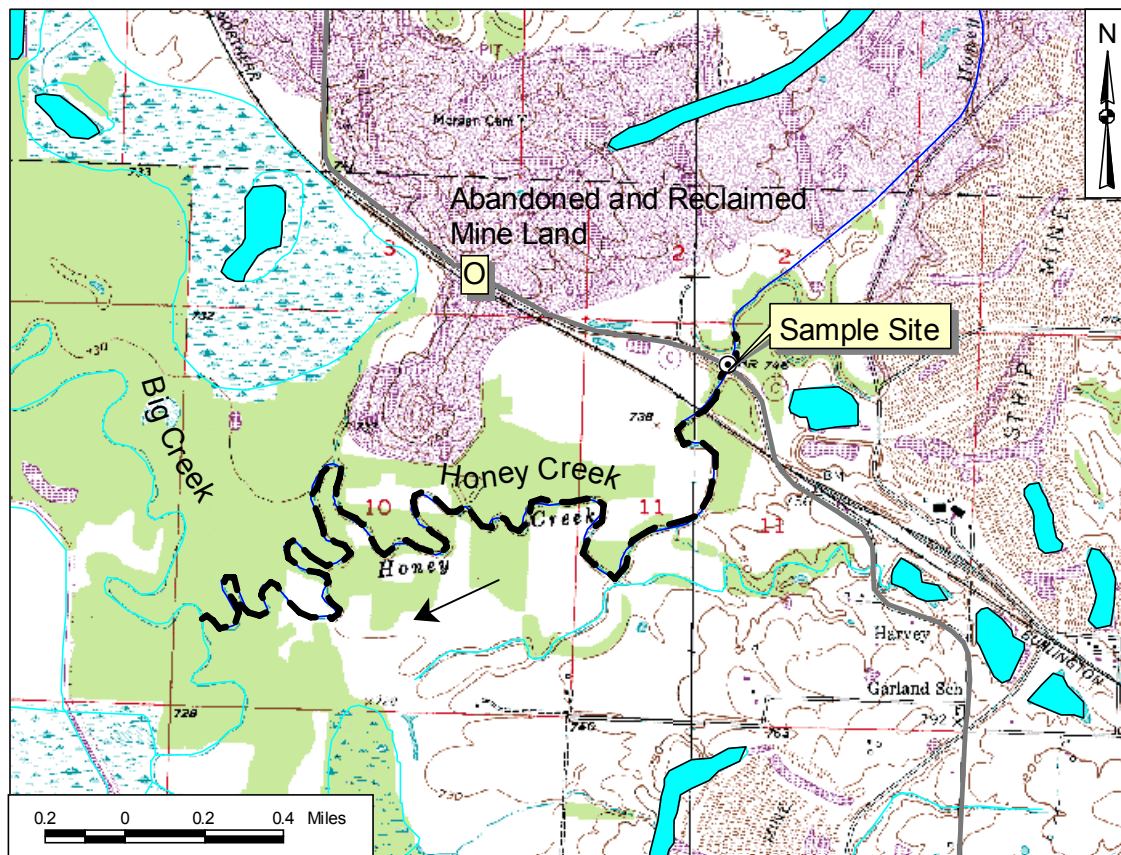
#### Background Information and Water Quality Data

Sulfide minerals, commonly found in coal and the surrounding rock, oxidize when exposed to the air and are subsequently dissolved by groundwater. In many old coal mining areas, this weathering process results in large amounts of sulfate dissolved in groundwaters and in surface waters draining these mined lands. Freshwater aquatic life cannot tolerate large amounts of dissolved substances in water. The Missouri Water Quality Standard for dissolved substances is 1,000 mg/L of sulfate plus chloride. Levels of chloride in Missouri streams are typically much less than 100 mg/L so most dissolved substances problems are related to high levels of sulfate.

The Missouri Department of Natural Resources, Land Reclamation Program reclaimed several areas along Honey Creek in the 1980s and 1990s. These included the Nannemann project on 60 acres completed in 1986 at a cost of \$687,757, the Reliance Shop project on 72 acres at a cost of \$585,447, and the Honey Creek project on 32 acres at a cost of \$654,796.

Honey Creek was placed on the 303(d) list due to a few water quality measurements showing high levels of conductivity. Conductivity strongly correlates with the amount of sulfate and chloride in the water. Results of water quality monitoring on Honey Creek since the completion of these reclamation projects is shown. This data indicates Honey Creek is now in compliance with the state sulfate and chloride standard. A document substantiating this fact has been created. It will be placed on a 30-day public notice period to give the public a chance to comment on the findings and conclusions.

### Map Showing Sampling Site on Honey Creek, Henry County, Missouri



--- Impaired Segment

← Direction of Flow

Water quality data may be found on the next page.

### Water Quality Data from Honey Creek at Hwy O, Henry County

Site Name	Year	Month	Day	SO4	Cl	SO4+Cl
Honey Cr. at Hwy O	1997	7		646	9	655
Honey Cr. at Hwy O	2000	8	4	260	10	270
Honey Cr. at Hwy O	2003	7	29	286	14	300
Honey Cr. at Hwy O	2003	12	30	119	13	132
Honey Cr. at Hwy O	2004	8	13	255	13	268
Honey Cr. at Hwy O	2004	9	29	216	13	229
<b>Mean:</b>				<b>297</b>	<b>12</b>	<b>309</b>
Water Quality Standard						1000

Source: Missouri Department of Natural Resources

**For more information call or write:**

Missouri Department of Natural Resources,

Water Protection Program

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